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ON THE MORPHOLOGICAL SPECIFICATION OF REFLEXIVES : IMPLICATIONS FOR ACQUISITION

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In this paper I address some problems related to the question of incorporating crosslinguistic variation of reflexives into Binding Theory. My intent is to show that both variation in what qualifies as the domain in which a reflexive can or must be bound, and variation with regard to the syntactic position of its antecedent, follow from the interaction between intrinsic morphological properties of the reflexive and general principles of Universal Grammar. Under the idea that variation must be determined by what is visible to the child acquiring language, I propose that the linguistic constraints the child is equipped with, include a parameter of morphological specification of reflexives; acquisition consists of setting the values of this parameter on the basis of evidence.

1. The data

It is known that certain properties of reflexives, such as binding domain and choice of antecedent, vary both within and between languages. An illustration of this variation is found in the table (1). The left column in this table contains the expressions with which I am concerned: se and lui-même in French, sig, sig selv and ham selv in Danish, sebja in Russian, and himself in English. The symbols "OK" and the asterisks indicate whether each of these expressions complies or does not comply with the properties considered in the columns A through F. Since most of these properties are quite well known, examples are presented only when the facts they illustrate are particularly relevant for the proposal to be made in this paper.

(1)	A Deict.	B Local	C Long-dis.	D Subj.	E Obj.	F Logoph.
F. <u>se</u>	*	OK	*	OK	*	*
D. <u>sig selv</u>	*	OK	*	OK	*	*
D. <u>sig</u>	*	OK [+a]	OK	OK	*	*
R. <u>sebjā</u>	*	OK	OK	OK	*	*
F. <u>lui-même</u>	*	OK		OK	OK	OK
E. <u>himself</u>	*	OK		OK	OK	OK
D. <u>ham selv</u>	*	OK		* [loc]	OK	OK

Column A indicates that none of the expressions here considered can be used deictically. Column B shows that all but sig, for which there is a restriction, may be bound in a local domain, defined as the Minimal Complete Functional Complex in which the expression is contained (Chomsky, 1986).

As for Danish sig, as argued in Jakubowicz & Olsen (1988) and in Jakubowicz (1992, and in press), local binding is legitimate if the governor of sig is an affectedness verb, in the sense of Anderson (1979)¹. Non-affectedness verbs, prevent the expression to be locally bound. The example (2) illustrates that sig can be locally bound if governed by an affectedness verb such as defend; (3) shows that local binding of sig is excluded if sig is governed by a non-affectedness verb such as criticize.

(2) Man_i må forsvare sig_i som man kan.
'One_i must defend oneself_i as best one can'.

(3) *Ida_i kritiserer sig_i.
*Ida_i criticizes REFL_i.
'Ida criticizes herself'.

Examples of affectedness and non-affectedness verbs are listed in (4) and (5) respectively². As indicated, verbs which disallow sig locally bound include transitive verbs as in (5a), and predicates in which the expression is governed by a functional preposition as in (5b)³.

(4) [+a] verbs

vaske (wash), børste (brush), rede (comb), sminke (make up), barbere (shave), frottere (rub), daække (cover), beskytte (protect), hjælpe (help), redde (save), befri (liberate), løsrive (untie).

(5) [-a] verbs

a. høre (hear), betragte (look at), beundre (admire), respekttere (respect), elske (love), hade (hate), kende (know), invitere (invite), naevne (mention), forstå (understand), huske (recall).

b. tale til (talk to), pege på (point to), drømme om (dream about), lytte til (listen to), sigte på (aim at).

Turning back to table (1), column C shows that only sig, and Russian sebjā can violate the Specified Subject Condition and thus be long-distance bound. As in several other languages (Koster & Reuland, 1991), long-distance binding is

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possible if and only if the expression is contained in a non-finite embedded clause. This property is illustrated in (6) for Danish.

- (6) a. Julie_i bad mig_i om [PRO_i at kritisere sig_i].
 Julie_i asked me_i about PRO_i to criticize REFL_i.
 'Julie asked me to criticize her'.
 b. *Julie_i siger [at Jeg kritiserer sig_i].
 Julie_i says that I criticize REFL_i.

The following two columns, that is, D and E, indicate whether a subject or an object are an eligible antecedent in a local domain: all but Danish ham selv can be locally bound by a subject; only lui-même, himself and ham selv can be locally bound by an object; only the subject is an eligible antecedent for se, sig selv, sig and sebjæ.

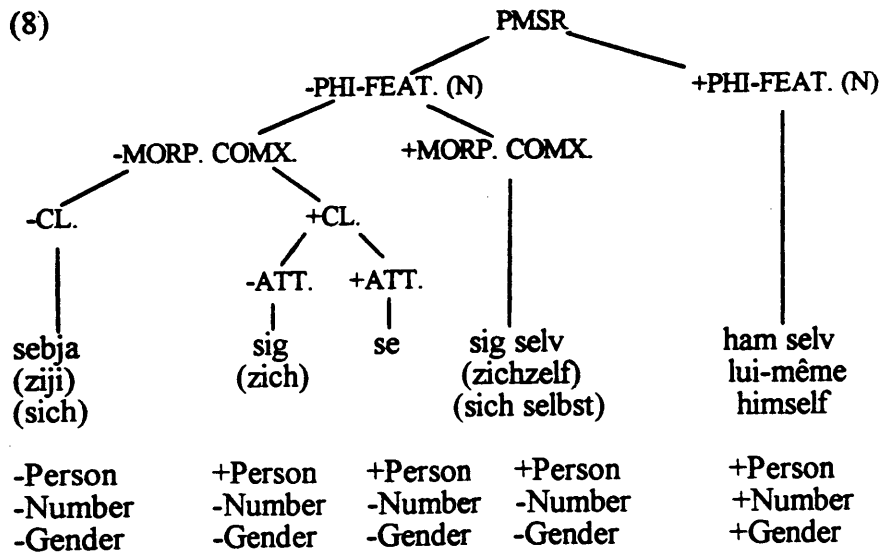
Finally, as shown in the last column of table (1), only himself, ham selv and lui-même can have a logophoric antecedent and thus be discourse linked. Examples demonstrating that lui-même/himself can be free in its own clause have been discussed in length by Zribi-Hertz (1989, 1990). An example from Vikner (1985) is presented below for ham selv.

- (7) Komponisten_i sagde [at orkestret kun måtte spille
 symfonien med ham selv_i; som dirigent].
 'The composer said that the orchestra only could play
 the symphony with him-self as conductor'.

2. The Parameter of Morphological Specification

The data presented here give rise to the following two questions: First, why is it that within and between languages, reflexives display contrastive binding behavior? Second, how does the child learn this contrastive binding behavior on the basis of primary linguistic data? I argue that such a behavior results from the interaction between intrinsic morphological properties of reflexives, and general Principles of Universal Grammar (e.g., the principles of Xbar Theory, Spec-Head agreement, government principles determining head and XP movement and the Binding Principles). More specifically, I propose the hypothesis that locality and antecedence properties of reflexives are dependent on the values of a hierarchically structured Parameter of Morphological Specification of Reflexives (PMSR).

The PMSR, represented in (8), has internal structure: Its two main values, which determine whether or not a reflexive has phi-features, may themselves be conceived as subparameters (each) containing a binary choice. With regard to phi-features, as indicated at the bottom of the tree, all the expressions here considered but sebjæ, require an antecedent in the third person. I consider that the relevant distinction between the positive and the negative values of this parameter is provided, more generally, by the number feature, and for the languages considered here, also by the gender feature.



If the reflexive has no phi-features, a further decision involves determining whether the expression is morphologically simple or complex, that is, whether or not it is monomorphemic or it is decomposable in two meaningful lexical elements. I will assume that morphologically simple reflexives such as *sebja*, *se* and *sig*, are heads, exhaustively dominated by a Functional Phrase that I call DP just for expository purposes. As for *sig selv*, I assume that this expression results from the adjunction of *selv* to *sig*. On the basis of examples such as (9), in which *selv* functions as a noun, I tentatively posit that within the complex reflexive, *selv* is nominal.

- (9) Det menneskelige selv er et uudforsket område.
'The human self is an unexplored domain'.

Coming back to the PMSR in (8), we have seen that if the reflexive has no phi-features, it is necessary to determine whether or not the expression is morphologically complex. Only if it is not complex, a further decision involves determining whether or not the reflexive is a clitic. I assume that as a default option, the child knows that a morphologically complex expression is always a phonological word, hence not a clitic. This hypothesis, as well as the distinction between morphologically simple reflexives that are clitics and those that are not, is confirmed by robust empirical evidence, summarized in the table in (10).

(10)

\expressions tests\	<u>se/sig</u>	<u>the children/ sig selv/ himself/ ham selv/ lui-même/ sebja</u>
a. stress	*	OK
b. answer to questions	*	OK
c. coordination	*	OK
d. clefting	*	OK
e. topicalization	*	OK

As observed in French by Stefanini (1962) and Kayne (1975), pronominal clitics differ from regular NPs with respect to a variety of syntactic processes. While the

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latter can be stressed, used to answer a question, coordinated, clefted and topicalized, none of these processes are available for clitics. When these tests are applied to the expressions here considered, it turns out that *sebjā*, *sig selv* and the complex reflexives with phi-features behave as regular NPs (or DPs), while *sig* behaves as a clitic, similarly to *se*.

Moving down on the left branch of the representation in (8), if the reflexive qualifies as a clitic, a final decision involves determining whether or not the clitic is overtly incorporated into its host; a clitic which does not select for morphological attachment, (represented as *minus ATT*), undergoes covert movement and does not form a morphological constituent with its host. Under Kayne's assumption that clitics are base generated in argument position, in French, movement of an object clitic to its host, a verb is obligatory, and in Modern French, the clitic cannot be separated from the verb. As seen in (11a), the clitic moves to C with the inflected verb, while in (11b), where the infinitive remains to the right of *pas*, the clitic also remains to the right of the negation.

- (11) a. Pourquoi se cachent-ils?
 Why REFL hide they?
 b. Il est préférable de ne pas se cacher.
 It is preferable to not REFL hide

Furthermore, as observed by Kayne (1975), in coordinated constructions without or with an auxiliary verb, as in (12a and b) respectively, the clitic cannot be dropped. As shown in (12c), the clitic can be optionally dropped if it is dropped together with the auxiliary.

- (12) a. Avant de sortir, Marie s'habille et *(se) peigne.
 'Before going out, Marie dresses and combs herself.'
 b. Marie s'est habillée et *(s')est peignée.
 'Marie dressed and combed herself.'
 c. Marie s'est habillée et (s'est) peignée.

In contrast, in Danish main clauses, where the main verb raises to C, the clitic remains separated from the verb by the subject, as in (13a), or by its trace, as in (13b).

- (13) a. Hvor vasker børnene sig?
 Where wash the children REFL?
 'Where do the children wash themselves?'
 b. [_{CP} Børnene_i [_C klæder [_{IP} t_i sig_i]]]
 'The children dress themselves'

As shown in (14), in coordinated constructions *sig* does not need to be repeated and can be dropped.

- (14) a. Ida klæder (sig) og reder sig omhyggeligt.
 Ida dresses (REFL) and combs REFL carefully.
 'Ida dresses and combs herself carefully'
 b. Hvorfor forsvaret og beskytter Ida sig altid?
 Why defends and protects Ida REFL allways?
 'Why does allways Ida defend and protect herself'

The data in (11) through (14) suggest that while in modern French, clitics select for morphological attachment, Danish clitics (reflexives as well as pronominals) do not. Thus se but not sig forms a morphological constituent with its host⁴.

Finally, as shown on the right branch of the PMSR in (8), reflexives with phi-features are morphologically complex expressions, hence non-clitics, constituted by a pronoun plus a self or emphatic adjunct⁵.

Let us now describe the data presented in the table (1), in terms of the PMSR. The following generalizations can be formulated:

- (15) a. A reflexive clitic which undergoes morphological attachment, or a morphologically complex reflexive without phi-features must be locally bound.
 b. A clitic that does not undergo morphological attachment (like sig), or a morphologically simple non clitic element (like sebjá), may be long-distance bound.
 c. Reflexives without phi-features are bound by a subject.
 d. Coreference (as distinct from binding), and an antecedent in object position, are possible for reflexives bearing the number feature.

While the first three statements in (15) seem to be adequate, (15d) is problematic. In fact, there are at least two well known cases of morphologically simple reflexives without phi-features that can be discourse-bound, just as himself and lui-même. One well known case, discussed in length by Sigurdsson (1986) is Icelandic sig, which would qualify as a clitic that does not undergo morphological attachment. Another well known case is the latin non-clitic se (Clements, 1975). As a matter of fact, logophoric uses of sig were available in old Norse, but are not anymore observed in modern Mainland Scandinavian languages. In Danish, the last examples of sig with a logophoric antecedent are from the beginning of the 18th century; in Norwegian, logophoric uses of seg persisted until the beginning of the 19th century (Moshagen and Trosterud, 1990). A more accurate formulation of (15d) and an account of this diachronic change await for further research. Meanwhile, I leave these two problems aside.

3. The analysis

Given space constraints, I will illustrate my proposal only by an outline of the behavior of se, sig and sig selv. First, I will address the following question: Why is it that French se must be locally bound regardless the lexical properties of its governor while the locality properties of Danish sig differ according to these properties?

Recall that both se and sig are morphologically weak elements lacking lexical content. If some degree of lexical content is required for a category to be visible at LF, neither se nor sig can be case checked unless they move to a position in which they can be provided with some substantive feature. I propose that the verb supplies these doubly underspecified elements with such a feature; thus both se and sig must incorporate into the verb. If the clitic is subcategorized for morphological attachment, it must undergo overt movement; otherwise, movement takes place at LF⁶. Consider (16).

- (16) a. Jean; se_i defend/critique tout le temps.
 Jean REFL defends/criticizes all day long.
 b. * Jean; m_j'a demandé de PRO_j se_i defendre.
 Jean mé asks to REFL defend.

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Since se subcategorizes for morphological attachment, it must overtly incorporate into the verb regardless of whether this one is [+a] or [-a] (as defend and criticize in (16a), respectively). Incorporation is achieved by head to head movement⁷. Following Chomsky's (1989) and Pollock's (1989) proposals about verb movement, I assume that the morphological complex, se + verb is in AGR_SP before spell out in (16a), and after spell out in (16b) (overt and covert movement respectively). The sentence (16a) converges but (16b) clashes, because in that position se being specified for third person cannot be associated with the features of PRO, that are first person. The hypothesis that once a clitic is adjoined to some X^o, it cannot be detached from it (Kayne, 1991), explains why se cannot move at LF to the matrix AGR_SP, and be coindexed with the matrix third person subject.

Let us now consider Danish sig. Recall that sig does not select for morphological attachment, and that [+a] verbs admit, but [-a] verbs exclude local binding of sig. To explain this contrast I will assume that at LF, that is after spell out, [+a] verbs can incorporate the element projected in their internal argument position giving as output a complex predicate. This property, call it P, can be conceived as a distinctive lexical feature of [+a] verbs: thus [+a] verbs have property P, while [-a] verbs lack this property (Zubizarreta, 1987). Evidence in support for this hypothesis comes from the fact that, when governed by a [+a] verb, the simple and the complex reflexive give raise to different interpretations. Olsen (1992) observed that only one reading is available in a sentence in which sig occurs, as in (17). In contrast, two readings arise in the presence of sig selv, in (18).

(17) Line klædder sig på.

Line dresses REFL Part.

'Line dresses herself'.

(18) Line klædder sig selv på.

(i) 'Line dresses HERSELF'.

(ii) 'Line dresses (herself) by herself (without aid).'

Olsen also reported that in sentences such as those above, the morpheme selv can be separated from sig and be intensified by the adverb helt (entirely, completely). This is shown in (19).

(19) Line klædder sig på helt selv.

'Line dresses herself entirely by herself'.

These facts can be explained by the hypothesis put forth above, namely, that sig (which has undergone object shift in (19)), covertly incorporates into its governor (after spell out), if this one has property P. The formation of this complex, allows selv to function as an IP (or VP) adjunct giving raise to either an emphatic (18-i) or an adverbial reading (18-ii). Under the hypothesis that [-a] verbs lack property P, covert incorporation of sig into the verb is excluded. Thus, sentence (20a) has no interpretation, and in (20b), since sig does not incorporate into the verb, selv cannot adjoin to IP (or VP), but must be adjoined to sig itself, and no emphatic or adverbial readings are available.

(20) a. *Ida kritiserer sig

Ida criticizes REFL

- b. Ida criticizes sig selv
'Ida criticizes herself'.

Note that the distinction between [+/-a] predicates has also an effect in French. Adjunction of lui-même gives raise to different interpretations depending of whether the host of se is a [+a] or a [-a] verb. If the verb is [+a], adjunction of lui-même makes the sentence ambiguous: As shown the sentences in (21) carry two readings:

- (21) Jean se lave/defend/presente lui-même
(i) 'Jean washes/defends/introduces himself by himself'(without aid)
(ii) 'Jean washes/defends/ introduces HIMSELF'.

In contrast, if the verb is [-a], only a single reading is available. Crucially, the adverbial interpretation accessible in the former case is excluded in (22).

- (22) Jean se respecte/hait/aime lui-même
'Jean respects/hates/loves himself'.

These facts confirm that the distinction between [+a] and [-a] predicates is well-founded, and give support to the hypothesis that se and sig undergo overt and covert movement respectively.

Let us come back to sig. As argued, sig locally bound is licensed by covert incorporation into a [+a] verb. If such licensing is excluded, only one possibility is left to sig: the expression must move out from its base generated position and land in an higher IP where it can acquire features. Following ideas by Pica (1987) and Cole, Hermon and Sung (1990), I assume that sig undergoes successive cyclic functional-head movement (Baker & Hale, 1990). Given first, that with [-a] verbs, local binding is excluded and long-distance binding is obligatory, and second, that excorporation is banned, I propose that sig moves directly from its base position to COMP skipping the lower INFL. Such movement seems to be legitimate, under Platzack's (1986) proposal that in V2 Mainland Scandinavian languages COMP and INFL are coindexed. I propose that long-distance movement of sig must be seen as a last resort device, (in terms of Chomsky 1992), driven by morphological necessity. This operation applies when it must, namely when the governor of sig is a [-a] verb as in (23) or when its governor is [+a], but the expression cannot agree with the lower subject, as in (24).

- (23) at Ida_i bad mig om PRO at invitere sig_i.
that Ida asked me to invite REFL.

- (24) Julie_i bad mig_i om PRO_j at forsvare sig_j/*_i.
Julie asked me to defend REFL.

If the local subject has third person features, and the governor of sig has property P, as in (25), the operation converges without application of the last resort operation, that is without long-distance movement.

- (25) Julie bad Ida_j om at forsvare sig_i.
Julie asked Ida to defend REFL.

Since in this case LF incorporation of sig into the verb is possible, it must occur according to the least effort guidelines proposed by Chomsky (1992). This amounts to saying that long-distance binding of sig represents a marked option. This prediction is borne out: First, Olsen's survey of two corpuses (Maeggard & Ruus, 1981a,b), obtained from 2000 literary texts published by 172 Danish authors between 1970-1974, shows that among 3519 occurrences of sig, only 4 come from sentences in which the expression is long-distance bound. Second, two studies, conducted by Olsen with 50 Danish native adult speakers, showed the following results. In a sentence-completion study, where subjects were asked to choose between sig and a pronoun (ham/hende) to refer back to the matrix subject of an object control sentence, on average, they used sig 23.7% of the time when the embedded verb was [+a], and 35.5% of the time when the embedded verb was [-a]; in the remaining cases they used the pronoun. In a grammaticality judgement study, sentences in which a pronoun in object position in an embedded clause was linked to the matrix subject, were considered grammatical 100% of the time. In contrast, the same sentences with sig instead of the pronoun were judged grammatical 18.9% of the time when the embedded verb was [+a], and 47.7% of the time when the embedded verb was [-a]. These data confirm that in modern Danish long-distance binding of sig is rare, and crucially, that it is less accepted with [+a] verbs than with [-a] verbs. In general, subjects prefer to use a pronoun, instead of sig.

The last question we will address in this section is why a morphologically complex reflexive without phi-features must be locally bound. To this effect we will consider sig selv in Danish.

We have seen that when sig is followed by selv, this element functions as either an IP (or VP) adjunct, or as a DP adjunct, depending on the lexical properties of the verb. If the verb is [-a], as in (20), selv cannot be separated from sig and no emphatic or adverbial reading is available. In this case selv is adjoined to sig, and, as indicated by stress patterns, sig gets cliticized onto selv. The fact that in this case, no element can intervene between sig and selv suggests that sig selv must be syntactically analyzed as one single nominal. Under the hypothesis that sig selv qualifies as an XP, it can be adjoined to IP at LF through XP movement. In this position sig selv can acquire features. If LF movement of sig selv is constrained by Relativized Minimality (Rizzi, 1990), a maximal projection intervening between the expression and its trace, determines a domain impermeable for government. Thus, the specifier of IP constitutes a barrier for sig selv. Consequently, the expression cannot move further to become long-distance bound.

Local binding is also obligatory when selv is IP or VP adjoined, namely, when the governor of sig is a [+a] verb. In these constructions, through LF incorporation into the verb, sig is already locally bound. Note that when selv occurs without sig and is IP or VP adjoined, it can only modify an expression occurring in its local domain. As the following examples illustrate, selv can only modify PRO. The sentences below are agrammatical if selv is interpreted as modifying the subject of the matrix clause in (26a), or the object of the matrix clause in (26b).

- (26) a. Eva_i bedder Anne_j om PRO_j selv_{i/*j} at svare på brevet.
 'Eva asks Anne to answer the letter by herself'
 b. Eva_i lover Anne_j PRO_i selv_{i/*j} at svare på brevet.
 'Eva promises Anne to answer the letter by herself'.

4. Acquisition

Under the claim that the binding properties of reflexives result from the interaction between their morphological properties and general principles of UG, there is no necessity to state any parameters associated with binding domains. Moreover, there is no need to have the child equipped with a specific learning principle, such as the Subset Principle. Assuming first that the linguistic constraints the child is equipped with, include the PMSR, and second that these constraints operate on the inductions that children make and do not make, the acquisition of the binding properties of reflexives consists in setting this parameter on the basis of evidence. As I have shown, primary linguistic data needed to fix the values of the PMSR are robust; therefore one expects the acquisition process to be almost instantaneous. As I will show immediately, this prediction seems to be borne out.

Consider the table in (27) where I summarized data from several experiments conducted with French, Danish and English speaking children. In most of these studies, the children were presented with both sentence-picture matching tasks and act-out tasks as for comprehension, and elicited production tasks. The design of the experiments, the linguistic materials and the tasks were almost the same in French and Danish. The materials included a variety of sentence-types (sentences with pronouns, passives and other raising constructions), whose results I will ignore here.

(27) Percentages of correct responses

	Comprehension	Production
French: <u>se</u> children adults	3 years > 80 % 100 %	3 years > 80 % 100 %
Danish: <u>sig selv</u> children adults	3 years > 80 % 100 %	3 years > 80 % 100 %
<u>sig</u> long-dist. children adults	9 years: 74 % 100 %	9 years: 30 % 38 %
<u>sig</u> local children	n.a.	3-5 years : 72 % (98 % — 50 %)
<u>himself</u> children	3 years > 80 %	n.a.
<u>lui-même</u> children adults	5.8 years: 58 % 100 %	5.8 years: 18 % 85 %

Consider first French se: The table shows that the younger children we tested in the comprehension tasks, showed correct understanding of the test sentences more than 80% of the time. This is an average of data obtained in 5 different studies in which children were presented with different sets of complex test-sentences with either a finite or an infinitival embedded clause, with either a quantified or a non-quantified local subject, and different embedded verbs. As indicated in the right part of the table, children as young as 3 (the youngest children we tested), produced correct sentences with se more than 80% of the time (cf., Jakubowicz, 1989, 1990, and in press).

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As can be seen in the table, similar results were obtained for sig selv in Danish, namely, the expression was correctly understood and produced more than 80% of the time by 3 year-olds. This is an average of data obtained in three different studies conducted by Olsen (1992). To test comprehension children were presented with sentences containing a non-affectedness verb in the embedded clause. An example, including some of the verbs used, is given in (28). Note that the same sentences with sig instead of sig selv were presented to test long-distance sig.

- (28) Minnie beder Ida om at pege på/sigte på/tegne/male sig selv/sig.
'Minnie asks Ida to point at/aim at/ to draw/ to paint herself/ her'.

Turning now to the results for sig long-distance bound, as shown in the table (27), in the comprehension task, even the performance of the 9 year-olds - 74% correct in average -, was not faultless when compared to adults. The percentages of correct responses obtained by the children younger than 9, were remarkably low: 10% at age 3; 31% at age 4; 31% at age 5 and 43% at age 7 in average. At all ages errors arose from binding the expression to the local antecedent. As for production, 9 year-olds behave in this respect as adults did, producing sentences with sig 30% of the time in average. The expression was almost unobtainable at the ages 3 to 5; 7 year-olds produced sig long-distance bound 10% of the time. Both children and adults used a pronoun instead of sig.

Different results were obtained in a fourth elicited production study, in which the verbs depicting the actions were all affectedness verbs admitting locally bound sig and sig selv. As can be seen in the table, 3 to 5 year-olds used sig locally bound productively, 72% of the time in average. Although percentages of sentences with sig varied according to the verb (e.g., 98% for dry; 85% for shave; 60% for comb; 50% for wash, etc), no child of this study used sig selv. When children did not use sig, particularly with the verbs comb and wash, they used the possessive reflexive, or they described the scene without a reflexive.

Coming back now to my prediction that the acquisition of reflexives should be almost instantaneous, the question arises whether or not this prediction is confirmed in Danish. My answer is yes, the prediction is confirmed in spite of the fact that sig long-distance bound is incorrectly interpreted as locally bound in the comprehension tasks, and is almost not used in the production tasks. Note first that when children are presented with a picture of a self-oriented action involving a non-affectedness verb, they do not use sig, but sig selv. If children thought that sig could always be locally bound, one could expect them to produce it across the board. But this does not happen. Second, one could think that the children younger than 9 use sig selv instead of sig because they do not know sig, it could be for instance that this item does not still belong to their lexicon. Such an assumption cannot be correct. As we have seen, children use sig correctly with affectedness verbs, that allow the expression to be locally bound. Third, one could think that young children suffer from some sort of processing constraint that prevents them to find an antecedent beyond an embedded clause. This is certainly incorrect. As I said, the children participating in these studies were also tested on pronouns. As reported by Olsen (1992), the score obtained by the younger children reached 80% correct in average, and differed significantly from their score on long-distance sig. This shows that the binding errors on long-distance sig cannot be due to the young children's alleged incompetence on pronouns, as proposed by Hyams and Sigurjonsdottir (1990).

One must then conclude that 3 year-olds know the core properties of sig: they know that the expression is licensed by incorporation into an affectedness verb and disallowed by a non-affectedness verb. If so, the errors observed in the comprehension task with respect to long-distance sig, cannot be due to the lack of grammatical knowledge. Once the child has identified the properties of sig, he still needs evidence to confirm that sig can be long-distance bound. As we have seen, long-distance sig is rare in the linguistic input, and as shown in (29a), in Mainland Scandinavian languages, a pronoun can be used in the same configurations in which sig can be long-distance bound. Yet one fact distinguishes these two elements: sig but not ham must be used if the matrix subject is an indefinite or arbitrary NP, as shown in (29b and c). Nevertheless, if it is limited to examples like the latter, positive evidence that long-distance sig is obligatory is rather poor. It is then likely that the child will need time to conclude that long-distance sig, even if marginal, is possible in Danish.

- (29) a. Julie_i bad mig_i om [PRO_i at kritisere sig_i/hende_j/k].
 Julie_i asked me_i about PRO_i to criticize REFL_j/her_j/k.
 'Julie asked me to criticize her'.
 b. PRO_i at lade [folk tale om sig_i/ham*_i] er kedeligt.
 PRO_i to let people talk about REFL_i/him*_i is boring.
 c. Man_i/Enhver_i bad mig om at invitere sig_i/ham*_i.
 One_i/Everybody_i asked me to invite REFL_i/him*_i.

Let us come back for the last time, to the table in (27). As shown in the last two lines of this table, there is a striking difference between English and French speaking children with regard to their behavior on sentences with himself and lui-même. The oldest French children we tested in two different studies using two different types of semantic predicates, such as bavarder avec (chat with) and parler de (talk about) showed very low scores on comprehension of lui-même in both studies. Further, lui-même was almost unobtainable in the production tasks, as would be the case if this expression was no part of the child's vocabulary. In contrast, for himself, the youngest children tested in different experiments, 3 year-olds by myself (Jakubowicz, 1984), 2 years 6 months by Kaufman (1988) and 4 year olds by Solan (1987), gave correct responses 80% of the time, on average.

Since lui-même and himself are alike from a morphological point of view, the acquisition difference cannot be due to the PMSR but to something else. I will suggest that the difference is related to the make-up of the lexicon, in English and French; crucially, French has featureless reflexives while English has only himself. I would like to suggest that in a language that has both, featureless reflexives and emphatic pronouns, the child will assume, in consistency with the PMSR, that a featureless reflexive must be locally bound. I will also suggest that in a language such as French, local binding of emphatic pronouns, which is obligatory only in certain semantic contexts, must be learned through experience. This predicts that in a Romance language in which the oblique featureless reflexive has no limited distribution, children should almost instantaneously know that the expression is locally bound. In contrast, in a language like English, that lacks featureless reflexives, children should master the bound and the unbound uses of himself early on, in agreement with the PMSR.

In summary: During the last 10 years, Everaert (1986), Pica (1987), Burzio (1989), Katada (1991) among other, have called attention to the relation between

morphological properties of reflexives and their theoretical binding behavior. Following this line of reasoning, I have proposed that Principle A of the Binding Theory is dependent on the values of a Parameter of Morphological Specification of Reflexives. This parameter singles out featureless reflexives that in the core case must be locally bound, from emphatic pronouns that must or may be locally bound according to different (not morphologically) properties. I argued that under the assumption that the child is equipped with such a parameter, he could immediately know the binding properties of reflexives. The acquisition data I have presented confirm this hypothesis for featureless reflexives and suggest that the acquisition of emphatic pronouns depends on the make-up of the lexicon of a particular language: in a language lacking featureless reflexives, the acquisition of complex forms with phi-features should be almost instantaneous; in a language as French, in which both, featureless reflexives and emphatic pronouns are available, the reflexive bound behavior of the latter must be learned through experience.

Footnotes

1. For Anderson (1979), an affected object undergoes a physical or an abstract change of state or location through the event denoted by the verb. See also, Roberts (1985); Tenny (1987); Hale and Keyser (1992). Although for concreteness I have originally adopted Anderson's view, for the purposes of the following discussion it is only important that a lexical property, P, of a particular class of verbs allows sig to be locally bound.
2. According to standard analysis (e.g., Vikner, 1985; Everaert, 1986, Hellan, 1988; Reinhart and Reuland, 1991), (3) is excluded because sig in argument position is specialized for long-distance binding. For these authors, verbs taking bare sig locally bound, should be marked in the lexicon as inherently reflexive. I think that this position is questionable: although there are many verbs in Danish (as in other Germanic, Romance and Slavic languages), that have the property of being inherently reflexive (e.g., verbs such as shame, hurry, behave, etc), these verbs disallow the complex reflexive or any other DP as argument; they can only take sig. In contrast, the verbs listed in (4) can be used with sig, sig selv, or any other DP. To explain this fact, Everaert (1986), and Reinhart and Reuland (1991) argued that verbs such as those in (4) are doubly listed in the lexicon both as intrinsically reflexive (the sig variant), or as transitive (the sig selv variant). Since the number of such verbs is large (see for instance Olsen, 1992 for Danish, Everaert, 1986, and Sola, 1993 for Dutch), having systematic recourse to lexical ambiguity rises an obvious learnability problem.
3. See Jakubowicz (1992) for arguments according to which the constructions in (5b) should be analyzed as non-affectedness predicates. See also Tenny (1987).
4. The feature [+/- attachment] is proposed to capture the fact that Romance morphophonologically reduced pronouns are dependent elements, while their Scandinavian counterparts are independent ones. It is an open question whether this feature should be expressed as a primitive morphological property, or should be derived from syntactic properties pertaining to the two types of languages (see Hageman, 1993 and work in progress; Kayne 1991). Finally note that in the recent literature, Romance reduced pronouns are called clitics while the German ones are called weak pronouns.
5. The morphological features used here to characterize reflexives also apply to non reflexive pronouns. For instance, both the strong form lui in French and stressed ham in Danish qualify as [+phi-feat, -morp. comx, -cl.]; weak Germanic and Scandinavian pronouns qualify as [+cl, -att.], and Romance clitics qualify as

[+cl., +att.]. In my view, the PMSR is part of a parameter of morphological specification of referentially dependent expressions which concerns both reflexive and non reflexive pronouns.

6. Two remarks are at stake. First, the hypothesis that reduced phonologically dependent forms without lexical content undergo movement, is compatible with the fact that in Danish (and Mainland Scandinavian more generally), the reflexive, that cannot be stressed, obligatorily undergoes object shift. In contrast the pronoun can remain in situ when it is stressed. This is shown below.

- (i) Igar udleverede Ida ham/sig ikke til politiet.
Yesterday delivered Ida him/REFL not to the police.
- (ii) Igar udleverede Ida ikke HAM/*sig til politiet.

Second, my proposal that *sig* covertly incorporates into the verb does not imply that the reflexive cannot overtly move for independent reasons. The fact that in (i) *sig* precedes the negative element (*ikke*) (which marks the left edge of the VP), indicates that the reflexive has overtly raised to a derived VP external position. As observed by Holmberg (1986), this movement is dependent upon overt verb raising. I assume that sentences with an auxiliary involve a double-verb shell, and that the clitic incorporates to the higher verb.

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* Given space constraints, well known references are not reported here.

